Form PTO-1449

INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(Use several sheets if necessary)

Docket Number (Optional)	Application Number
TSmc-00-004	09/604,067
Applicant: Ming-Dou Ker et al.	
Filing Date: 06/26/00	Group Art Unit:

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
IR	5086365	2/4/92	Lien	361	58	5/8/90
IR	5631793	5/20/97	Ker et al.	361	56	9/5/95
IR	4855620	8/8/89	Duvvury et al.	307	448	11/18/87
IR	5237395	8/17/93	Lee	257	358	5/28/91
IR	5255146	10/19/93	Miller	361	56	8/29/91
IR	5287241	2/15/94	Puar	361	56	2/4/92
IR	5311391	5/10/94	Dungan et al.	361	56	5/4/93
IR	5440162	8/8/95	Worley et al.	257	355	7/26/94
IR	5610791	3/11/97	Voldman	361	56	9/6/95
IR	5625280	4/29/97	Voldman	323	284	10/30/95

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES	Translation NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

IR — Stephen G. Beebe, "Methodology for Layout Design and Optimization of ESD Protection Transistors, 1996 EOS/ESD Symp. Proc., pp. 265-275

IR — Polgreen et al., "Improving the ESD Failure Theshold of Silicided n-MOS Output Transistors by Ensuring Uniform Current Flow", IEEE Trans. Electron Devices, Vol. 39, pp. 379-388, 1992.

EXAMINER: Isabel Rodriguez — DATE CONSIDERED: 1/8/03

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant

Form PTO-1449

INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(Use several sheets if necessary)

Docket Number (Optional)	Application Number
TSMC-00-004	09/604,067
Applicant: Ming-Dou Ker et al.	
Filing Date: 06/26/00	Group Art Unit:

U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES	Translation NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

IR — Duvvury et al., "Dynamic Gate Coupling of NMOS for Efficient Output ESD Protection", Proc. of IRPS, 1992, pp. 141-150.

IR — Duvvury et al., "Achieving Uniform n MOS Device Power Distribution for Sub-micron ESD Reliability", Tech. Dig. IEDM, 1992, pp. 131-134.

EXAMINER: Isabel Rodriguez — DATE CONSIDERED: 1/8/03

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant

Form PTO-1449

INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(Use several sheets if necessary)

Docket Number (Optional)	Application Number
TSMC-00-004	09/604,067
Applicant: Ming-Dou Ker et al.	
Filing Date: 06/26/00	Group Art Unit:

U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES	Translation NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

IR — Ramaswamy et al., "EOS/ESD Reliability of Deep Sub-Micron NMOS Protection Devices", Proc. of IRPS, 1995, pp. 284-291.

IR — Ker et al., "Capacitor-Couple ESD Protection Circuit for Deep-Submicron Low-Voltage CMOS ASIC", IEEE Trans. on VLSI Systems, Vol. 4, pp. 307-321, Sept. 1996.

EXAMINER: Gale Roberts — DATE CONSIDERED: 1/8/03

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

Form PTO-1449

INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(Use several sheets if necessary)

Document Number (Optional)	Application Number
TSMC-00-004	09/604,067
Applicant: Ming-Dou Ker et al.	
Filing Date: 06/26/00	Group Art Unit:

U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES	Translation NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

IR	Ming-Dou Ker, "Whole-Chip ESD Protection Design with Efficient VDD-to-VSS ESD Clamp Circuits for Submicron CMOS VLSI", IEEE Trans. on Electron Devices, Vol. 46, No. 1, pp. 173-183, Jan. 1999.
IR	Merrill et al., "ESD Design Methodology, EOS/ESD Symp. Proc., 1994, EOS-16, pp. 141-149.

EXAMINER	DATE CONSIDERED
Isabel Rolón	1/8/03

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

Form PTO-1449

INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(Use several sheets if necessary)

Docket Number (Optional)	Application Number
TSMC-00-004	09/604,067
Applicant: Ming-Dou Ker et al.	
Filing Date: 06/26/00	Group Art Unit:

U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES	Translation NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

Dabral et al., "Core Clamps for Low Voltage Technologies," EPS/ESD Symp. Proc., 1994, EOS-16, pp. 141-149.

Worley et al., "Sub-Micron Chip ESD Protection Schemes which Avoid Avalanching Junctions", EOS/ESD Symp. Proc., 1995, EOS-17, pp. 13-20.

EXAMINER	DATE CONSIDERED
Isabel Rodriguez	1/8/03

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

Form PTO-1449

INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(Use several sheets if necessary)

Docket Number (Optional)	Application Number
TSMC-00-004	09/604,067
Applicant: Ming-Dou Ker et al.	
Filing Date: 06/26/00	Group Art Unit:

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES	Translation NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

FP Holdman et al., "Scaling, Optimization and Design Considerations of Electrostatic Discharge Protection Circuits in CMOS Technology", EOS/ESD Symp. Proc., pp. 251-260, 1993.

FP Amerasekera et al. "The Impact of Technology Scaling on ESD Robustness and Protection Circuit Design", EOS/ESD Symp. Proc., pp. 237-245, 1994.

EXAMINER	DATE CONSIDERED
Gabriel Rodriguez	1/8/03

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

Form PTO-1449

INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(Use several sheets if necessary)

Docket Number (Optional)	Application Number
TSMC-00-004	09/604,067
Applicant: Ming-Dou Ker et al.	
Filing Date: 06/26/00	Group Art Unit:

U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES	Translation NO

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

IP Daniel et al., "Process and Design Optimization for Advanced CMOS I/O ESD Protection Devices", EOS/ESD Symp. Proc., pp. 206-213, 1990.

IP Chen et al., "Design Methodology for Optimizing Gate Driven ESD Protection Circuits in Submicron CMOS Processes", Proc. of EOS/ESD Symp., pp. 230-239, 1997.

EXAMINER	DATE CONSIDERED
Isabel Arlegui	1/8/03

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant

Form PTO-1449

INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(Use several sheets if necessary)

Docket Number (Optional)	Application Number
TSMC-00-004	09/604,067
Applicant: Ming-Dou Ker et al.	
Filing Date: 06/26/00	Group Art Unit:

U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES	Translation NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

XP	Amerasekera et al., "Substrate Triggering and Salicide Effects on ESD Performance and Protection Circuit Design in Deep Submicron CMOS Processes", IEDM Tech Digest, 1995, pp. 547-550.
XP	Anderson et al., "ESD Protection for Mixed-Voltage I/O Using NMOS Transistors Stacked in a Cascode Configuration", Proc. of EOS/ESD Symp., pp. 54-62, 1998.

EXAMINER: Isabel Rodriguez — DATE CONSIDERED: 1/8/03

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

Form PTO-1449

INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(Use several sheets if necessary)

Docket Number (Optional)	Application Number
TSMC-00-004	09/604,067
Applicant: Ming-Dou Ker et al.	
Filing Date: 06/26/00	Group Art Unit:

U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES	Translation NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

AF	Chen et al., "Design Methodology and Optimization of Gate-Driven NMOS ESD Protection Circuits in Submicron CMOS Processes", IEEE Trans. on Electron Devices, Vol. 45, No. 12, pp. 2448-2456, Dec. 1998.

EXAMINER	DATE CONSIDERED
Isabel Rodriguez	1/8/03

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.